October 8, 2002

Edwin L. Mongan, III
Manager, Environmental Stewardship
E.I. du Pont de Nemours & Company, Inc.
Safety, Health and Environmental Excellence Center
1007 Market Street, DuPont 6082
Wilmington, DE 19898

Dear Mr. Mongan:

The Office of Pollution and Toxics is transmitting EPA's comments on the robust summaries and test plan for 1,5,9-Cyclododecatriene posted on the ChemRTK HPV Challenge Program Web site on January 23, 2002. I commend E.I. du Pont de Nemours & Company, Inc. for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that E.I. du Pont de Nemours & Company, Inc. advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission.

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the HPV Challenge Program Web site "Submit Technical Questions" button or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsca-hotline@epa.gov.

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

-S-

Oscar Hernandez, Director
Risk Assessment Division

Enclosure

cc: C. Auer
A. Abramson
W. Penberthy
M. E. Weber

EPA Comments on Chemical RTK HPV Challenge Submission:
1,5,9-Cyclododecatriene

SUMMARY OF EPA COMMENTS

The sponsor, The Dupont Chemical Co., submitted a test plan and robust summaries to EPA for 1,5,9-Cyclododecatriene (CAS No. 4904-61-4) dated December 11, 2001. EPA posted the submission on the ChemRTK HPV Challenge Web site on January 23, 2002.

EPA has reviewed this submission and has reached the following conclusions:

1. Physicochemical Properties and Environmental Fate. EPA agrees with the submitter's approach for physicochemical endpoints. Adequate data are available for the environmental fate endpoints for the purposes of the HPV Challenge program.

2. Health Effects. Adequate data are available for all health effect endpoints.

3. Ecological Effects. EPA considers the data for all ecological endpoints inadequate and recommends conducting tests using closed systems and measured concentrations.

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.

EPA COMMENTS ON THE 1,5,9-CYCLODODECATRIENE CHALLENGE SUBMISSION

Test Plan

Physicochemical Properties (melting point, boiling point, vapor pressure, partition coefficient, and water solubility).

The submitted data for melting point, boiling point, vapor pressure, and water solubility are adequate for the purposes of the HPV Challenge Program.

Octanol/Water Partition Coefficient. EPA agrees with the submitter's conclusion that additional testing is needed for the partition coefficient.

Environmental Fate (photodegradation, stability in water, biodegradation, fugacity).

Available data are adequate for the purposes of the HPV Challenge Program.

Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity).

Adequate data are available for the repeated-dose, genetic, reproductive, and developmental toxicity endpoints for the purposes of the HPV Challenge Program.

Acute toxicity. Although there are several deficiencies in the reported acute toxicity studies, EPA believes that the available data for this endpoint are supported by the repeated-dose studies and provide evidence to sufficiently characterize the acute toxicity of 1,5,9-Cyclododecatriene for the purposes of the HPV

Challenge Program.

Ecotoxicity (fish, invertebrates, and algae).

The data submitted for fish, aquatic invertebrates and algae are inadequate for the following reasons: 1) given the volatility of the chemical (Henry's Law constant calculated as 3.32 x 10^{-2}/m^3/mole) the tests should have been conducted in closed systems. 2) The summaries do not indicate whether nominal or measured concentrations of the test substance were used. 3) The tests were conducted using high concentrations of acetone that were above the acceptable limit of 100 mg/L. Therefore, EPA recommends conducting all these tests using closed systems with measured concentrations.

For evaluating volatile chemicals such as 1,5,9-Cyclododecatriene, EPA suggests that the submitter use information from structure-activity relationships (SAR) and information on analogs in order to determine whether available data are reasonable in this case. The use of SAR information to support measured data on 1,5,9-Cyclododecatriene is appropriate and consistent with the HPV Challenge guidance for applying structure-activity relationships (http://www.epa.gov/chemrtk/sarfinl1.htm).

Specific Comments on Robust Summaries

Physicochemical Properties

The submitter needs to provide the method and other experimental details for melting point, boiling point, and water solubility.

Melting Point. If possible, the submitter needs to address the difference between the melting point value of 10^0C and the other two values of -17^0C and -15^0C.

Environmental Fate (photodegradation, stability in water, biodegradation, fugacity).

Stability in water. The submitter provided data on volatilization from water but no information on hydrolysis. Although this chemical is not expected to hydrolyze in water, the submitter needs to state and explain this in the existing robust summary.

Follow-Up Activity

EPA is requests that the submitter advise the Agency within 60 days of any modifications to its submission.